

Empirical Analysis of E-Procurement adoption in SMEs

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Abstract – The significance of e-commerce in the global economy is expected to grow substantially in the 21st century. Business-to-business (B2B) e-commerce is said to be the most successful type of e-commerce because of the widespread implementation of consistent procedures for documents interchange (like Electronic Data Interchange (EDI)), delivery, trailing, distribution, and compensation amongst stock chain partners (B2C, B2E, and B2G). E-procurement refers to the act of purchasing properties and facilities electronically, typically through the use of the Internet and associated web-based tools. E-procurement is a part of B2B interchanges, and it is typically used to buy materials and components, as well as the more common MRO supplies. E-procurement has been shown to increase productivity and cut costs by some studies. There are many accounts in the literature of the rapid expansion of E-procurement to new republics and businesses. The learning goal of this research is to take stock of where E-procurement stands among small and middle-sized enterprises (SMEs) in Southcoast Massachusetts at current time. The primary purpose of this paper is to acquire more about the existing state of E-procurement in SMEs and features that impact the acceptance of E-procurement. A questionnaire study was used to amass the information. Information procurement via the internet (E-procurement) is described, along with the Southcoast of Massachusetts's conceptual model for its effective implementation.

Keywords – E-procurement, E-Procurement adoption, Small and middle-sized enterprises.

I. INTRODUCTION

Integrating business and the Internet has been a common occurrence for some time now. However, many large economic entities have moved procurement onto an electronic platform as it is one of the major functions of a firm and can significantly affect the firm's profitability or even survival. Overall, an organization will be able to accomplish more in less time and with greater output after adopting an e-procurement system. In spite of this, most SMEs remain skeptical of the benefits, primarily because of their limited human and financial resources. Also, developing nations like Malaysia lack the complete technological development and standards necessary to implement the system. Similarly, local governments have yet to show any initiative in shifting to a system that relies more heavily on electronic purchases. Therefore, in order to overcome these obstacles, a concerted effort and collaboration is needed from government, system developers and vendors, SME owners, and employees.

The Internet is one of the most well-known ICTs due to its rapid, global, and borderless data transmission and reception capabilities. Since its explosive growth in the early 1990s, the Internet has had a profound impact on how businesses are run and managed. Before that time, EDI was primarily used by large, well-resourced companies because Internet deployment and use were prohibitively costly. However, with the decline in the cost of personal computers and the subsequent formation of the Biosphere Extensive Network, and the successive growth of easy browsers with graphical user interfaces, access to the Internet has spread to the majority of households. The number of websites has skyrocketed from 50 in 1992 to 27 million in 2002. More and more people are getting online, and some companies are taking advantage of this by conducting business online. With 124 million users in 2000, \$27.6 billion in sales were made via the Internet; by 2009, 227 million users had contributed \$143.3 billion in sales.

Target markets provide a rough framework for categorizing the Internet market. Companies engaging in business with other businesses (B2B), businesses selling directly to customers (B2C), and firms selling directly to government agencies (B2G) are all examples of different types of commercial interactions between businesses. Electronic procurement, often known as e-procurement, is the use of software by firms to do business and make purchases with other organizations through the World Wide Web. When seeking, sourcing, negotiating, ordering, receiving, and reviewing a purchase, all or a portion of these steps may be completed electronically via the use of integrated information technology. These days, many

organizations believe that e-procurement may help them save time and money while also enhancing the quality of the services they provide to customers.

E-procurement is crucial for both international and local businesses. Despite academics' and vendors' lack of focus on e-procurement in SMEs. Technology is gaining traction in many of these companies, partly due to the increased importance placed on stock chain managing both local also foreign procedures. Opportunity and difficulty in E-procurement for SMEs are subject of the research. Firms have employed the systems of E-procurement to acquire indirect products for the purpose of administration, maintenance, sales, and operations, e.g., office supplies, cleaning solvents, office furniture and computer equipment. Direct links with suppliers are made possible by e-procurement systems, cutting down on administrative burden and saving time in the process of making purchases.

The inability to do computerized pursuits and assessments crosswise all suppliers is a significant disadvantage of branded E-procurement schemes (a specific vendor's organization). These features may be found in added structures, such as industry-specific gateways, both horizontal and vertical. According to Kim and Assistant Professor [1], E-business is "a system in which Internet technology is applied to simplify the business activities of a corporation in order to boost productivity and efficiency." This communiqué structure is planned to facilitate closer cooperation between retailers, wholesalers, and consumers. As per Bou-Ghanem [2], E-procurement is quickly becoming a potent tool for lowering expenses and raising output levels. E-procurement, as stated by Cardoso and Biazzin [3], allows for the consolidation of several suppliers' catalogs into one easily navigable source for the purchaser. The procurement team will be able to examine product buying patterns and, in turn, assist supplier negotiations with the use of this technology. Most buying tasks will also be automated.

Some of the main advantages of E-procurement were explored by Ferreira and Amaral [4]. These comprises (1) lower contract costs, (2) quicker assembling, (3) more seller options, (4) modernized gaining processes, (5) greater oversight of procurement expenditure and worker obedience, (6) greater admission to other buyers, (7) less form-filling and repetition of errands, and (8) redesigned obtaining road map. An E-procurement adoption model was created by Shatta, JLayer, and Shayo [5] after they researched the phenomenon in Hong Kong. They proposed a structure for the use of electronic purchasing. When implementing E-procurement policies, a homogenous net of social and expertise players has equally chanced and restrictions as deliberated by Jufri and Budiman [6]. They also provide light on how E-procurement is used to limit or expand a range of possible activities in various official surroundings as fit as how these settings advance and shift over period and between seats.

Rajaiah and Sivasankar [7] investigate the role that SMEs play in community finding by analyzing the effects of source insights, electronic systems, and organization size. They revealed that poor participation of SMEs remained linked to an absence of perceived capitals, predominantly in lawful capability and management, as fine as a nonexistence of electronic schemes in order dispensation and promoting. E-business functionalities have been adopted by 4570 European organizations, and 329 European companies have migrated beginning EDI-based to XML-based E-business frameworks, as investigated by Nurmilaakso, Kotinurmi, and Laesvuori [8]. For a long time, traditional procurement systems have been plagued by ineffective procedures, slow communication, and unnecessary complexity, all of which have wasted valuable time and resources. E-procurement has the potential to address these issues by lowering transaction costs and increasing productivity via streamlined workflows, better information dissemination, and more teamwork. Though the possible reimbursements of E-procurement must be a driving force trendy its acceptance by SMEs, doing so may necessitate financial and human resources.

Furthermore, it requires everyone's buy-in and knowledge, particularly from senior management and owners, in order to properly understand the benefits and costs. Addy, Addo, Kwofie, and Yartey [9] emphasizes on adoption of E-procurement from one performer to another inside their separate organizations. They found nine main factors on actor-to-actor distribution using data from exploratory research with big Dutch buying organizations: professed profit, announcement, protest, implementation, exercise, appointment, risk discount, prize, and nature. Many recent empirical studies have focused on e-procurement acceptance. For example, Chen et al. [10] studies national inequalities in E-procurement adoption. These authors use an empirical study of the spread of e-procurement across Europe to argue that businesses in nations by low levels of uncertainty avoidance, such as the United Kingdom and Germany, tend to be the forerunners in this field, while those in countries more resistant to change such as Spain and France tend to adopt the practice more slowly.

Cioni [11] study the organizational and budgetary consequences of growing Internet use throughout the procurement process. Administrative viewpoints include firm size, contribution, the amount of ranked levels and functional parts and financial significances comprise effectiveness and effectiveness in the buying meaning. Wu and Drignei [12] calculated the impression of consumer order measures and data flow amid traders and buyers on the value of the trader logistics contentment course. These trainings are not mainly worried by small and medium-sized industries. Despite the detail that SMEs play a serious part in the worldwide budget and stock chains. very slight study has stayed directed on the current disorder of E-procurement in SMEs. In this paper, we label the answers of our study on the existing rank of E-procurement amid small and medium-sized firms (SMEs) on Massachusetts' Southcoast.

The following is how this paper is organized: Section II presents an overview of E-procurement. Section III focusses on a theoretical model aimed at the acceptance of E-procurement in SMEs. Section IV evaluates the research and identifies the procedure of research. Section V presents the research and discussion in the paper. Section VI draws final remarks concerning the paper.

II. OVERVIEW OF E-PROCUREMENT

E-procurement discusses the practice of utilizing electronic methods for the entire purchasing cycle, from initial needs assessment to final satisfaction. More and more companies are considering using online E-auctions as a means of making acquisitions. There are five main factors contributing to this: (i) lower prices, (ii) faster bidding and responses, (iii) more

openness and less time spent on administrative tasks, (iv) shorter production cycles, and (v) wider distribution. With the help of e-procurement, both vendors and consumers can gain access to broader markets, a wider selection of products, and more comprehensive data. E-procurement creates an extensive network of businesses that can be easily located and contacted. Businesses use E-procurement strategies, like reverse auctions, to reduce their initial outlays for procurement. E-procurement has the potential to help businesses streamline processes, increase productivity, decrease cycle period, eliminate human mistake, and enhance stock chain organisation.

To create a multi-agent system in the E-style, Drawel, Bentahar, Laarej, and Rjoub [13] merged the conventional methods of developing management information systems with elements from the E-style. The proposed system makes extensive use of various information technologies in order to modify its behaviour and collect more pertinent data from users. In order to reduce overall predicted procurement costs over two time periods, Vukasović and Sluga [14] present an investigative model that can help a procurement manager choose optimal mixture of choices and advert marketplaces. E-procurement, as defined by the vast majority of academic works, is an electronic buying process that employs information technologies like electrical data interchange (EDI), the Net, and the Creation Inclusive Web.

More explanations are on the way. By integrating, managing, automating, optimizing, and enabling an organization's procurement activities by the usage of electronic tools, technologies, and web-based submissions, in according to Tatsiset al. (2006), is referred to as e-procurement. E-procurement is defined by Dai and Kauffman [15] as "Internet systems that simplify business purchasing." From "formulation of the business buying strategy" to "actual deployment of an Internet-based purchasing system," E-procurement requires a sequence of procedures, as stated by Martín and Peñalvo [16]. "The emergence of private web-based procurement platforms that automate communication, transactions, and cooperation among supply chain partners" its pardon by Naeem [17] describes as "E-procurement." It entails working together better, streamlining processes, controlling expenses, and sharing information more effectively both within and outside of established structures.

III. A THEORETICAL MODEL FOR E-PROCUREMENT ADOPTION

The usage of e-procurement presents various problems for small and medium-sized businesses. A major barrier to adoption is the general public's misunderstanding of E-procurement and its effects on business efficiency. Based on their research in Hong Kong, Shen, Zhang, and Li [18] proposed a theoretical plan for implementation of electrical procurement. Founded the prior works and the results of this learning of a local sample of SMEs, we have adapted the aforementioned framework specifically for SMEs (see **Fig. 1**). The exclusive outline decorated the significance of E-procurement, the challenges associated with E-procurement acceptance and the important achievement elements for E-procurement adoption such as enough funding, system interoperability, communications network standards, top-management support and dedication an awareness of corporate goals, and adequate security measures. The suggested model emphasizes what remain alleged to be important impacts (founded on the works and information composed) on E-procurement adoption, and aids as a foundation for proposing subjects for upcoming study and parts that must be of attention to SME bosses and holders contemplating, adopting, before utilizing E-procurement.

Present Position and Willingness of Businesses For E- Procurement

The variables technology behavior, and organization all have a contribution to the viability of E-procurement adoption. According to Doroshenko, Institute of Software Systems NAS of Ukraine, Bodak, and NTUU [19], E-procurement systems are more likely to be used by big, managerially-innovative firms with robust centralized offices. Additionally, he emphasizes the importance of (1) behavioural concerns and (2) the procurement system in determining whether or not an organization will have effective adoption of E-procurement. In light of this, it is reasonable to infer that the success of a firm's E-procurement adoption will depend on the degree to which its people gaining system and skill are prepared for it.

Perceived Benefits of E-procurement

Adoption for E-procurement will be based on how well the organization understands its benefits. For instance, there is no motivation to use E-procurement if people are unaware of its benefits (both monetary and otherwise). Realizing the value of E-procurement shows that you have the administrative chops and tech savvy to make good use of emerging technologies like E-procurement. According to Cherian, Munuswamy, and Jasim [20], E-procurement may help improve efficiency by providing access to up-to-the-moment data, streamlining the purchasing process, and integrating different parts of the supply chain. E-procurement has the potential to enhance business operations in several ways. These include fostering stronger bonds with suppliers, reducing expenses associated with holding inventory, speeding up the order fulfilment process, and enhancing buying efficiency. E-procurement has many strategic and tactical advantages, but many organizations just regard it as using IT for sharing information with suppliers. This misunderstanding has the potential to slow down the spread of E-procurement. Marei [21] states that these positive effects can be broken down into three classifications: (1) strategic, which includes organizational changes as well as market competitive edge; (2) high effect prospects which include better relations through current traders and discovering relations with fresh suppliers besides (3) functioning which includes more effectual acquiring. Management's hopes for E-future procurement's performance will undoubtedly be influenced by how those hopes are viewed. E-intermediation, according to Aljumah, Shahroor, Nuseir, and Refae [22], will reduce environmental uncertainty in the supply chain.

Barriers toward E-procurement

Adoption for E-procurement will be slowed by barriers such a lack of funding, knowledge, and technical skills; aversion to change; and a lack of support from upper management. The following are some of the obstacles that Sánchez-Rodríguez,

Martínez-Lorente, and Hemsworth [23] found to the widespread use of electronic procurement: The lack of (a) transaction security, (b) supplier E-procurement alternatives, (c) reasonable expertise, (d) a lawful agenda, (e) practical skill, (f) E-procurement information, (g) unidentified corporate assistances, (h) data argument values, and (i) established commercial affairs with sellers. Their work emphasized the value of electronic finding methods such as electronic obtaining and tenders, electronic information dissemination and reverse auctions, electronic maintenance and repair operations, electronic supply chain management, and electronic cooperation. Barriers to implementing E-procurement are highlighted by Koggalage [24], who focus on human factors and technical issues. Infrastructure constraints include a lack of experience and the appropriate equipment, while behavioural barriers include buying staff obtaining illegal benefits from preferred firms, misleading floor pricing, and information breaches.

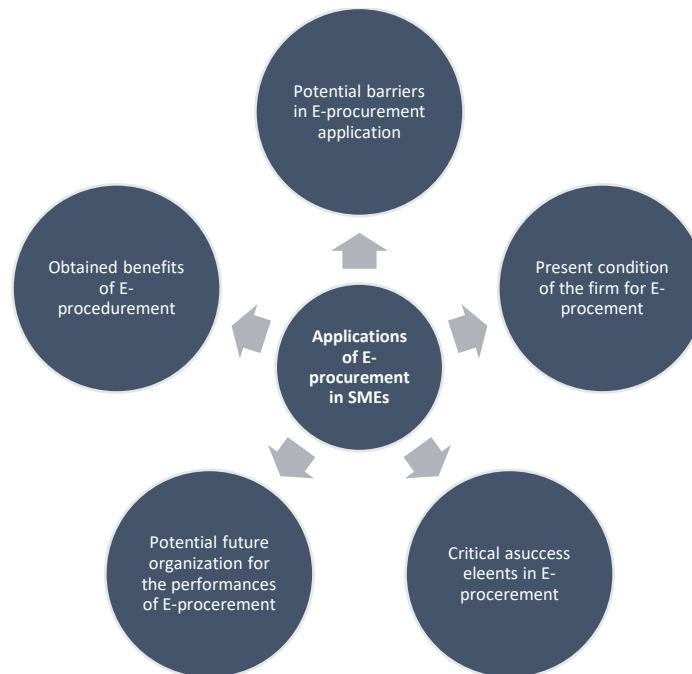


Fig 1. Applications of E-procurement in Small and Medium-sized Enterprises

Critical Success Factors for E-procurement in SMEs

When it comes to SMEs, there are a number of elements that are crucial to the widespread acceptance and effective use of electronic procurement. SMEs may be nimble and creative, but they often lack the resources and skills to fully take advantage of emerging technology. Consider-Ing these features, proper strategies, tactic sand administrative rules essential to be devised aimed at the adoption for E-procurement in SMEs. necessity for E-procurement and crucial achievement elements would be influenced by the corporate strategy of SMEs in footings of size of commercial, creation mix, type of goods mass-produced/amenities offered and its involvement in stock chains. Some of basic important success criteria for acceptance for E-procurement stayed emphasized by Fitriyah, Wahyuni, Julia, and Naim [25], and they include: realistic events bit-by-bit restructuring, promotion enticements, administration backing, pledge for top management and scheme procedure and maintenance mechanisms. As a strategy to predict how E-procurement will evolve, Yadav, Saini, and Yadav [26] presented a growth model for electronic government. Successful deployment of E-procurement requires strong procurement and IT infrastructure, he said.

Perceived Organizational Performance And E-Procurement

In order for small and middle-sized enterprises (SMEs) to successfully embrace E-procurement, top-level management must be on board with the idea. E-procurement has the potential to provide benefits at the strategic, tactical, and operational levels, as outlined by Ibrahim [27]. Adoption rates of E-procurement among SMEs will be influenced by the degree to which their owners and management feel the practice will have a positive effect on future performance. E-procurement may have both immediate and long-term effects on a company's performance, particularly in terms of its ability to produce goods and services at a reasonable price while remaining competitive. They need to understand how E-procurement fits into their strategic partnerships with buyers and suppliers. Small and medium-sized enterprises (SMEs) often prioritize financial metrics above strategic metrics for measuring success. Due to the nature of the modern corporate environment, which includes Internet allowed source restraint administration and innovativeness resource scheduling such an approach is no longer acceptable. Performance metrics and indicators that are not directly related to finances should be used regardless of level. Yusufu et al. [28] explores effects of radio frequency identification (RFID) skill and the electrical produce code (EPC) net on business-to-business (B2B) electronic commerce. RFID has a substantial effect on ROI, creativity, stock turn, price, and product quality.

IV. RESEARCH PROCEDURE

The study utilized a cross sectioned ground study review strategy with questionnaires sent out to 250 randomly selected key informants working for businesses on the Southcoast of Massachusetts. Participants were assured their privacy would be protected and told that only summary data would be shared. All questionnaires were accompanied by a self-addressed imprinted cover for direct submission to authors. The Authors' goal in conducting this research was not to zero in on any one sector. We received 39 usable surveys back, which is 15.6%. Excel was utilized for the data analysis. Respondents who were involved in purchasing activities at their companies were asked for some basic demographic information. This section provides a synopsis of that demographic information. There were no respondents younger than 25 years old, 88% were 40 or older, and 11% were in the 25-39 age range. In terms of education level, 47.5% accused held an eligible male degree, 22.5% held a master's degree, 30% held post-secondary documentation or diploma. Seventy-five percent of respondents had more than 14 years' experience in their field, 7.5 percent had 11-14 years' involvement, 10 percent had 7-10 years' knowledge, 5 percent had 3-6 years' practise, also no one required less than 3 years' practice. Figures indicate that accused were mostly learned, experienced obtaining professionals and their ages indicate that they are mature adults.

V. RESULTS AND DISCUSSION

The segment discusses the study data and examination conducted to assess level for E-procurement preparedness among the selected SMEs under the proposed framework. Data related to the model is studied after some introductory demographics are covered. **Fig. 2** shows that 23 businesses had at least 50 workers, 12 businesses had between 50 and 199 workers, and 4 businesses had between 200 and 499 workers.

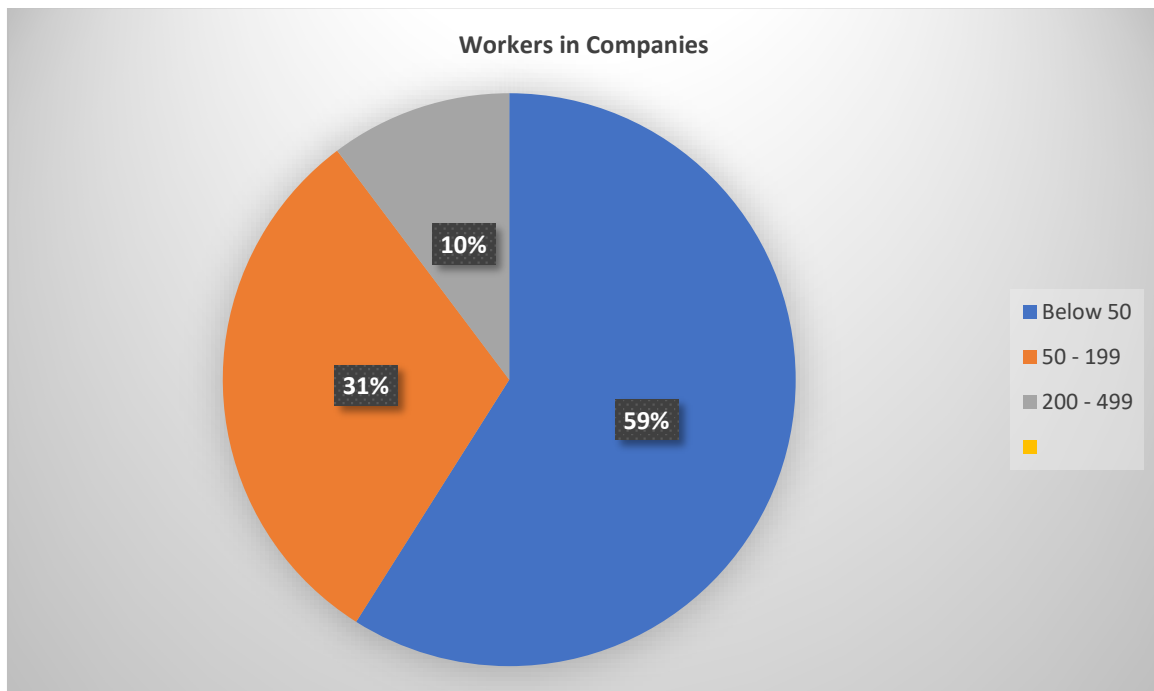


Fig 2. Number of workers against the number of company

The businesses easily qualify as SMEs by any standard definition. **Fig. 3** demonstrates that 57 percent of the businesses were locally focused, 35% were national/international, and 8% were international only. Many were undoubtedly small and medium-sized enterprises (SMEs), which are typified by their local presence. **Fig. 4** shows the demographic breakdown and occupational breakdown of the sample. Despite the fact that manufacturing accounted for the vast majority of the businesses, many other sectors were also well-represented. It's worth noting that the service industry is well-represented. As can be seen in **Fig. 5**, almost all businesses today make use of the Internet. This may or may not indicate that they are engaging in electronic purchasing, as other data will show. However, the results show promise for Cyberspace application in E-procurement.

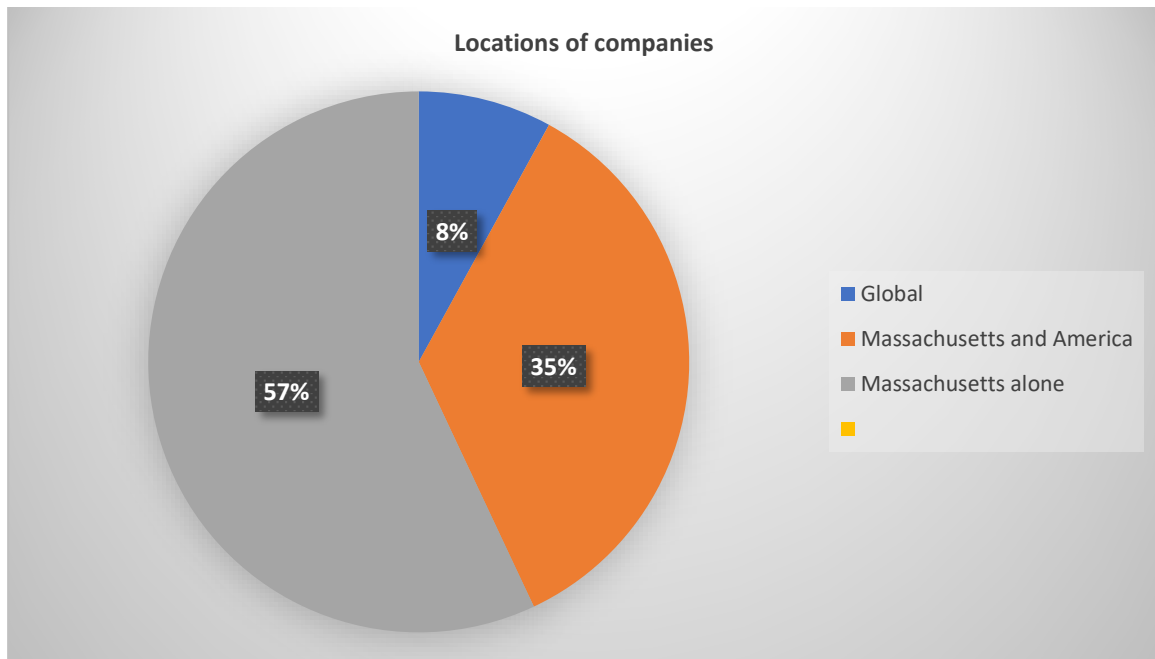


Fig 3. Locational data for companies

Current State of E-Procurement Application

Here, we take a look at some of the indicators of SMEs' readiness for and status in E-procurement. Fig. 6 shows that 72.5 percent of respondents overall have their own websites, but gives no insight into their functionality. In Fig. 7 we see an answer to that question. Fig. 7 shows key data about the companies' online activity. Most websites' primary function is to disseminate data about the company (39.4%) and the products and services it offers (36.6%). Only 15.5% allow customers to place orders online, and even fewer accept payments digitally (1.4%). By analysing the remaining uses and the percentages associated with them, we can see that these businesses essentially do the same things with their websites as they would with a printed catalog. In a nutshell, online stores don't make up a huge portion of most people's time spent on the sites, which are primarily used for disseminating information.

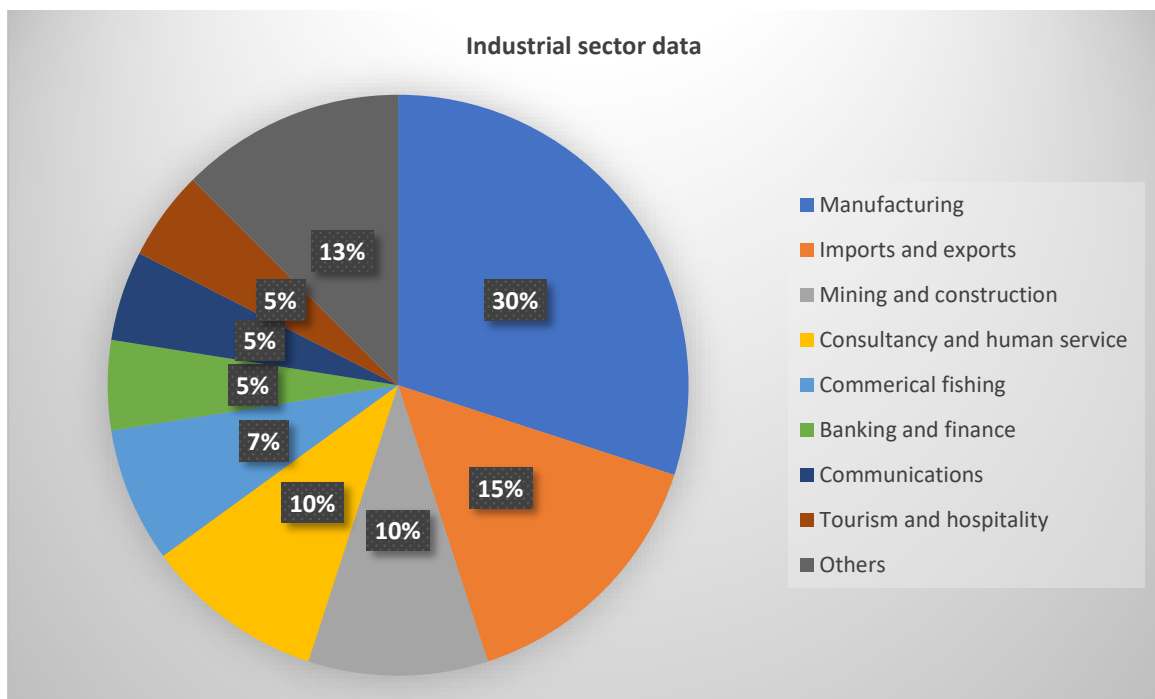


Fig 4. Data representing industrial sectors

The distribution of buyers/workers in procurement is shown in Fig. 8. The procurement departments at 88% of companies are extremely small (1–5 people). Only 6% of businesses employ a procurement team of 6-10 people, and only 6% of businesses employ a procurement team of 10-15 people. None of them had more than 15 people working in procurement.

Looking back, it would have been beneficial to have an idea of the total annual value of their purchases so that purchasing and procurement could be given the attention it deserved. The importance of procurement in such organizations is difficult to gauge from the size of their staff alone.

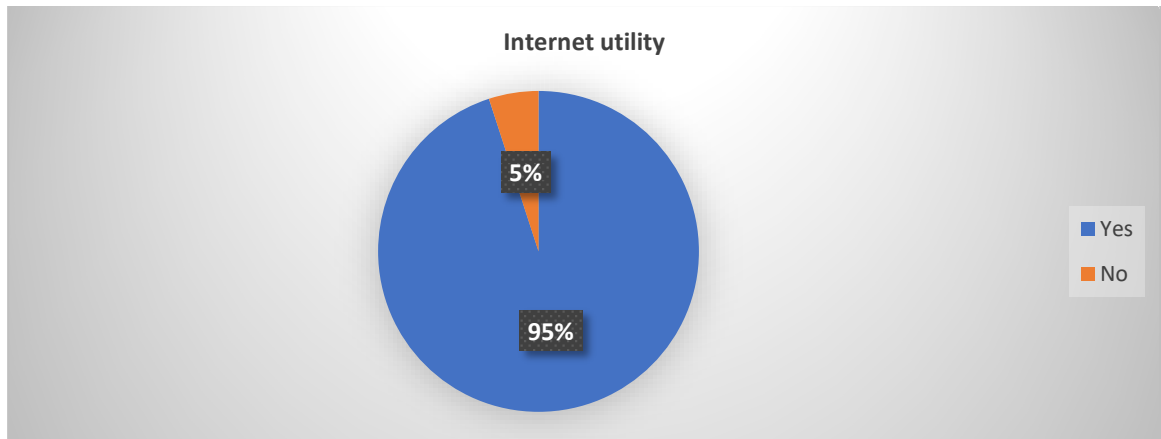


Fig 5. Application of internet services

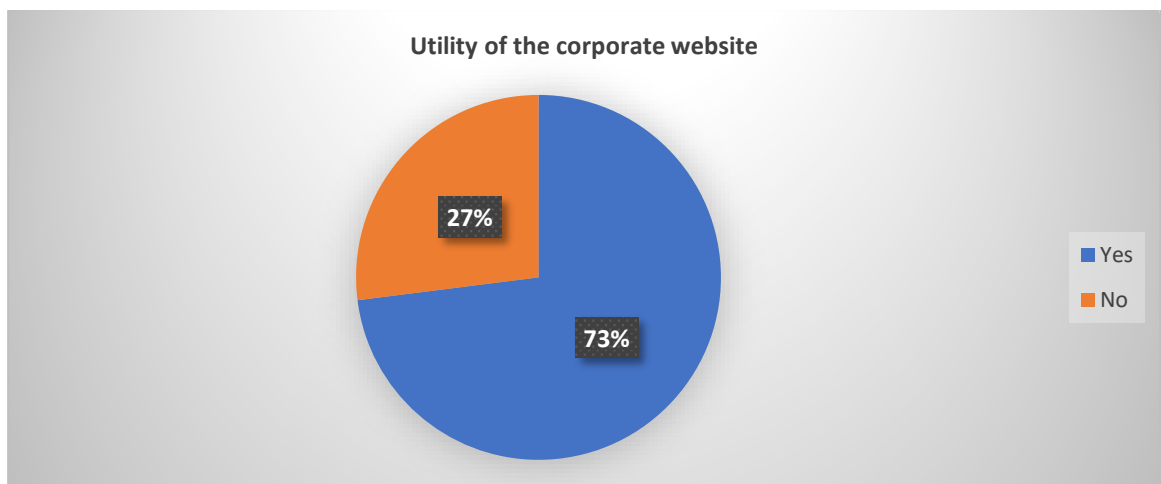


Fig 6. Employment of corporate website

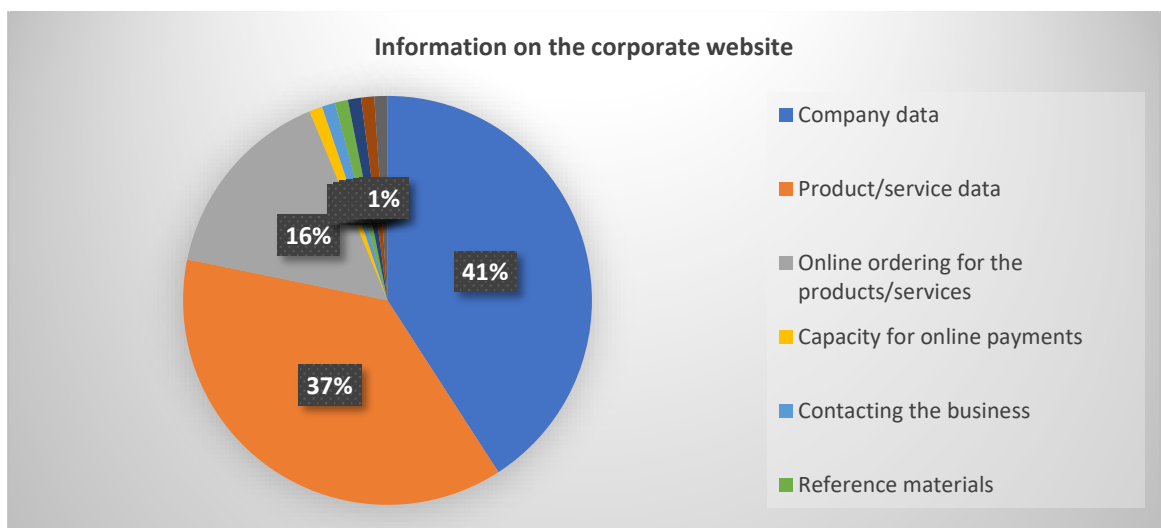


Fig 7. Data available on the corporate website

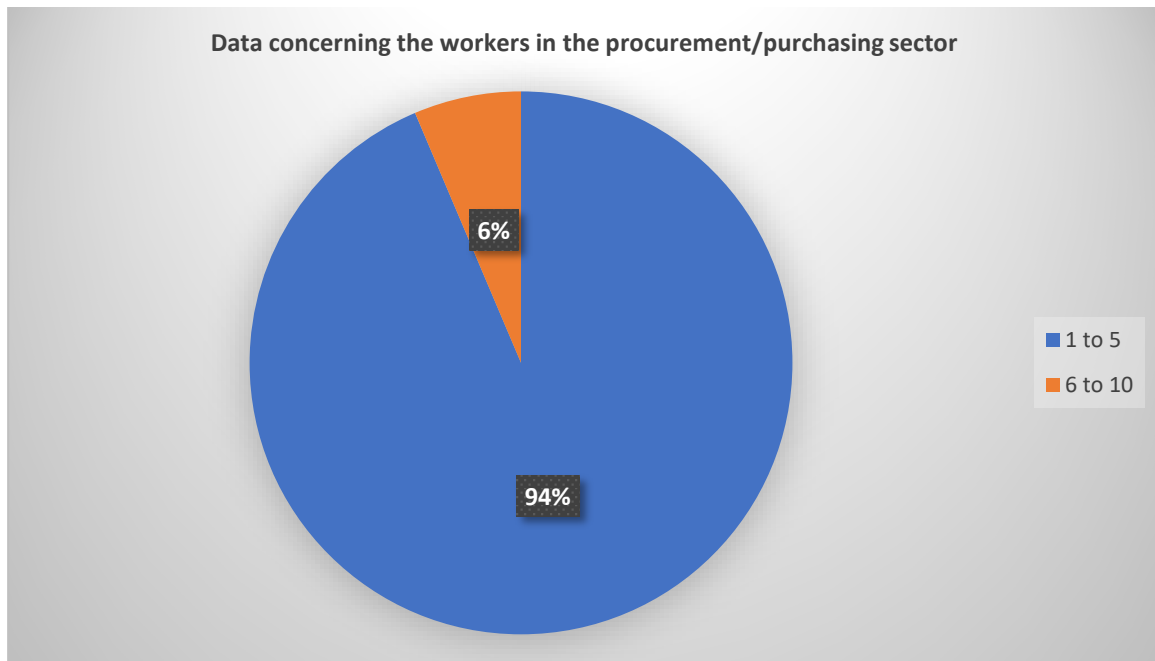


Fig 8. Workers in the procurement and purchasing sector

The perceived significance of the Internet in purchasing is seen in Fig. 9. Only a third of respondents think it's crucial (extremely important or im portant). The vast majority either dismiss it as insignificant or are unsure. It seems from this data that many businesses (or at least poll respondents) are unaware of the potential benefits of using the Internet for purchasing or of the present trends among bigger businesses. Most of replying SMEs didnt have a buying or procurement section, but Fig. 10 illustrates that there is a firm hold of necessity procurement and formalization of procurement procedures and rules. Whoever or whoever is responsible for procurement also probably has other responsibilities. In smaller businesses, it is not uncommon for people to "wear many hats" (fulfill many organizational roles). This is positive for supply chain management and may potentially serve as further motivation to adopt and practise E-procurement.

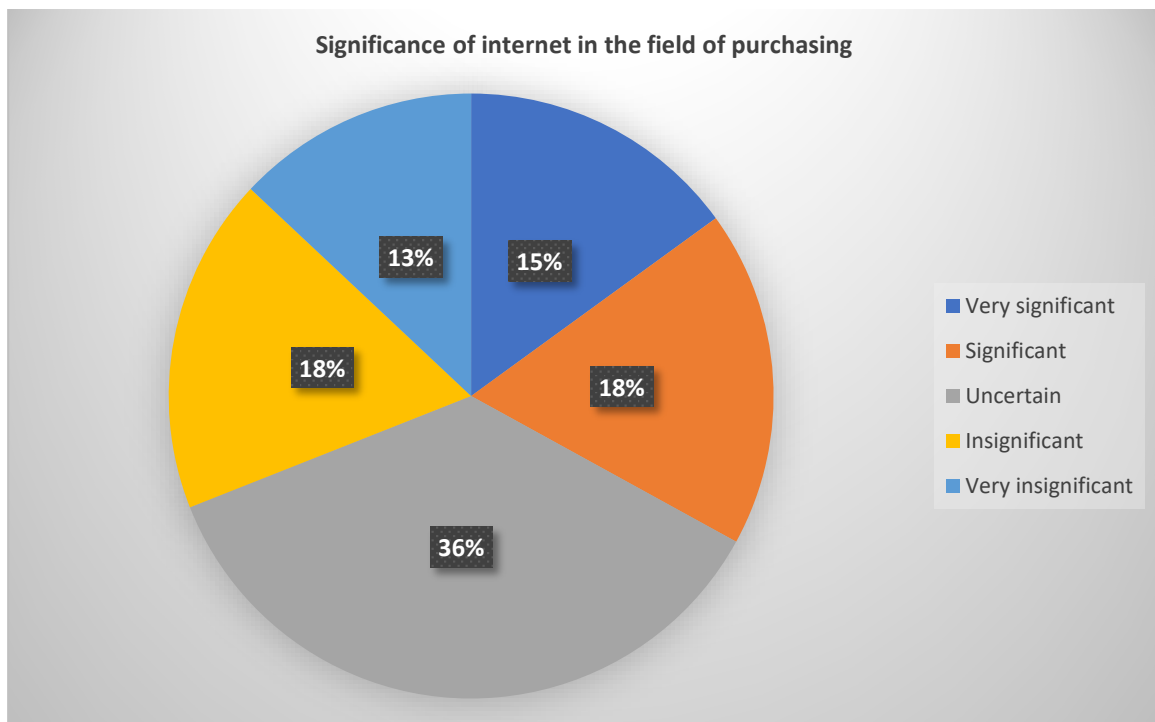


Fig 9. Significance of internet in purchasing

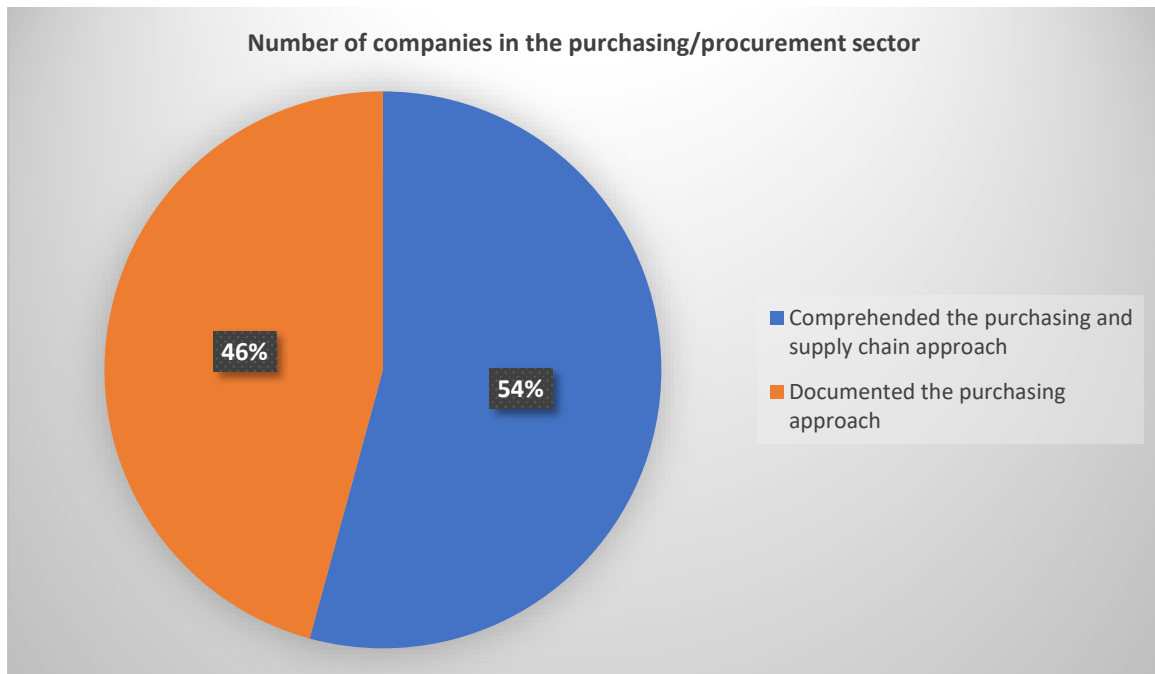


Fig 10. Purchasing and procurment sector

Barriers for E-procurement Application

In this piece, we take a look at the challenges many see when trying to adopt E-procurement. The respondents were given a 5-point Likert scale to indicate how much they agreed or disagreed with the statement that the above items were obstacles to the application for E-procurement. It was found that "E-procurement was not the top initiative or priority of the organization" as the primary obstacle to its implementation. Concerns about safety and a lack of funding tied for third place, behind aversion to change and technological immaturity. Of these five, the highest rating was a modest 3.3. No other item received as high of a grade as unsure (3.0), indicating that most respondents do not consider it to be a significant obstacle.

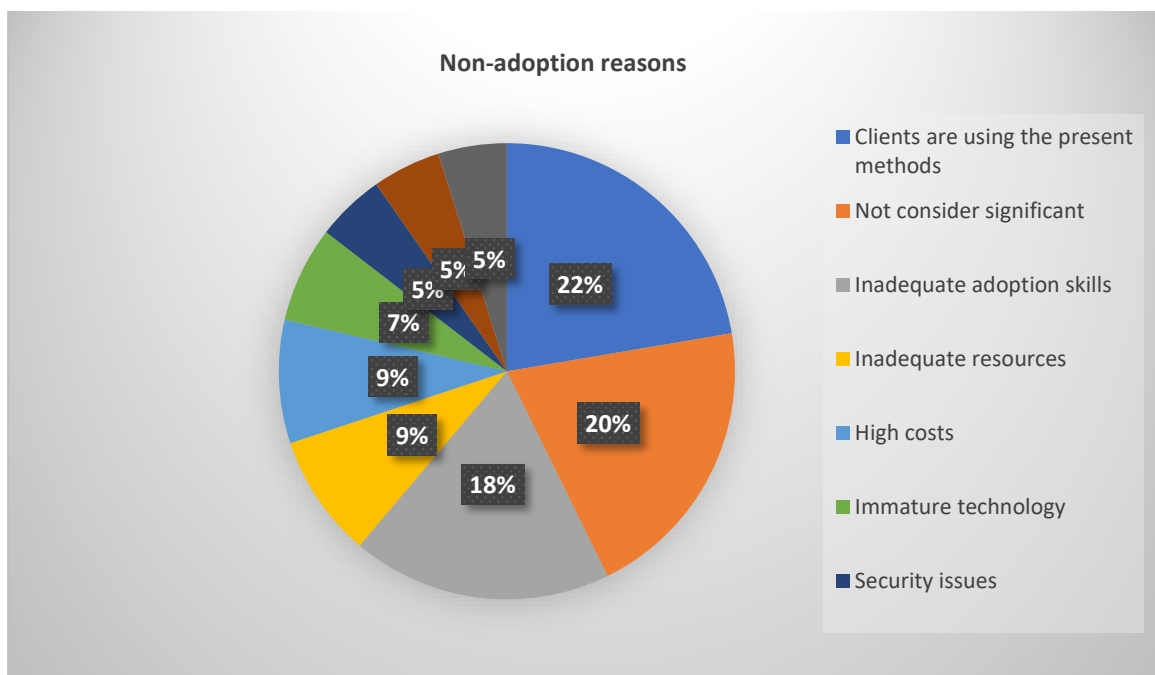


Fig 11. Rationale for not adopting E-procurement systems

Since none of the hurdles were scored particularly highly on average, it raises the question of whether the lack of awareness of E-potential procurement's advantages, rather than any actual impediments, is stopping more businesses from adopting the practice. 83 percent of those who were asked whether they thought it was a good idea to use E-procurement said they didn't. The reasons respondents were not enthusiastic about E-procurement are shown in **Fig. 11**. A barrier is a factor that prevents E-procurement from being implemented. Some of these reasons for not adopting E-procurement may

be seen as "excuses," and they certainly have the feel of such. These include the fact that consumers are satisfied with the present procedures (23%), the absence of any perceived benefits (21%), and a lack of understanding (19%). In a smaller way, there were additional explanations. The data acquired from replies to another study query suggested that just 29% of defendants stayed going to create an E-procurement system whilst 71% remained not. Specified the proliferation of sites (especially flat and perpendicular portals) designed to facilitate business-to-business electronic trade seems to be essential for healthier humanizing small & medium-sized enterprise (SME) holders and directors about electronic procurement & the benefits that said to bring.

Critical Success Factors in E-procurement Application

Participants in the study be situated to be enquired to rank how important a variety of issues were to them in terms of ensuring the fruitful rollout of E-procurement. The evaluations reveal that top executives involvement and support is the most essential component in E-procurement adoption (rating of 3.7), which is not unexpected because many research have come to the same conclusion: technological projects must have top management participation and support. The streamlining of clearances and workflow was also crucial (3.5). The third most common response was working closely with suppliers (3.4), which makes perfect sense given their position in the supply chain. Fourth (3.3) was unified switch and administration for E-procurement inventiveness fifth (tied) was statement amid contributors sixth (content organisation) and seventh (info scheme experts with Net competences) was clear responsibility for purchasing in the organizational structure. In addition to those two items, nothing else received a rating more than 3.0. (inexact).

Organizational Performance with E-procurement Application

Defendants invited to deliver their thoughts on how they expect a company to benefit from using E-procurement. Once again, a 5-point scale was used to record their replies. It seems that many respondents think E-procurement might be beneficial to their businesses. Those surveyed identified increases in long-term performance of the organization and decreases in expenses as the two effects they anticipated would have the most influence (both had ratings of 3.6). The third advantage they anticipated was an increase in short-term organizational performance, as well as the formation of strategic partnerships and new professional connections (each with a rating of 3.3).

The normal assessment on a piece was fewer than 4, which shows "agreement" that item is essential, therefore when taken together, the scores imply that greatest respondents acknowledge E-procurement offers planned worth (long-term, cost, and attractiveness advantages). Overall, it's questionable whether or not respondents really believe that E-procurement is essential to achieving success in the target domains. Respondents to a poll regarding the effect for E-procurement deployment on administrations reported the following gains and perks: According to the ratings, productivity and efficiency were enhanced (secured with a rating of 3.2) besides the income was up (graded individual a 3.0). Not surprisingly, given the survey's findings about respondents' usage of electronic procurement platforms, none of these evaluations are very high. Maybe the firms' low scores are an honest reflection of how little they're really using E-procurement. Take note of the many unsure replies given for each of the three questions. Take note of how many people said "Agree" when asked whether or not the things were efficient or effective. It's possible that the businesses who answered positively are the ones who use it the most. Uncertain replies, as well as limited distresses and sturdily upsets most possible originate from those working for businesses that make limited use of E-procurement.

E-procurement Use

In this segment we present the results of a survey asking users about their experience with E-procurement at work. The close for E-procurement adoption by these businesses is fairly well illustrated by the responses. It is clear that E-procurement makes extensive use of computer-related technology. The authors' personal experience suggests that the telephone (or cell phone) is perhaps cast-off more than additional electronic resources though we did not specifically ask about this. It is seen that fax machines and electronic mailing are the most frequently used forms of automated procurement expertise though smooth these aren't used all that often, while the Internet and electronic commerce are used less frequently. Due to their long history (though not as long as the telephone) and ease of use, electronic mail and facsimile machines (FAX machines) are the most popular modes of procurement. No respondent was younger than 25, and 88% were in their 40s or older. Perhaps that's why more people are turning to FAX than ever before, and why they're turning to it so frequently.

When compared to other E-procurement methods, FAX has the advantage of being the most widely available, the least expensive (initial investment wise, as it does not require a computer), and the oldest. In a nutshell, these small and middle sized enterprises (SMEs) are not making closely as much use as their higher participants of 21st-century electronic commerce technologies. In order to get a more precise measure of how often people use E-procurement technology, we asked them some questions in our survey. Almost half of the businesses that were surveyed said they built their own E-procurement capabilities in-house, while a third said they outsourced it. 6% of the sample combined in-house and external resources. Few businesses even have Touchnet or E-procurement solution platforms. Respondents were polled on their use of E-business techniques (this covers E-commerce and additional) a wide range of E-business methods was identified. The role of electronic ordering was minor compared to other forms of electronic information sharing. There is a massive market for "indirect" products and services, as reported by Buy IT Best Rehearsal Net in their October 2002 issue. Unintended products and amenities such as office equipment, stationary, printing, maintenance and repair supplies, IT resources, travel, contract personnel, consultants, and contractors account for an average of 36% of an organization's total external expenditure, according to benchmarks. The majority of online purchases were for janitorial and other office products. A tiny percentage

of online purchases were spent on raw materials, while the rest was split amongst a wide variety of items. The Buy IT BestPractice Network's buying patterns seem to be in line with these findings.

VI. CONCLUSION

We anticipated finding more widespread adoption of E-procurement amongst the analyzed SMEs in light of recent developments in the manufacturing sector. It came as a surprise to the researchers that the SMEs in their learning remained not using E-procurement even still most of them recognized its tactical worth and understood the probable effect on their organization's presentation. Since the necessary basic infrastructure and overall organisational conventions were already in place, willingness did not appear to be main matter preventing acceptance. It's worth noting that only about a third of people polled considered E-procurement to be crucial. Most likely due to a lack of exposure defendants do not view the advantages of E-procurement as being particularly noteworthy. If they used it more, they would get more out of it but the query is how to encourage them to do so. Remember that 88% of respondents didn't think E-procurement application was essential, and that the biggest obstacle that E-procurement be situated top supervision inventiveness or importance. Other obstacles included resistance to change, a lack of resources, insufficient expertise, technological immaturity, and security worries. Respondents appeared to have a firm grasp on the myriad considerations that must be made before and during the adoption process. Participants' use of E-procurement was low relative to the model's expectations. We need to know why the companies we looked at were not more enthusiastic adopters of electronic purchasing. First they have so slight practise with E-procurement, the study applicants surveyed didnt see a great deal of potential in the advantages offered. It appeared that the obstacles were not so much preventing E-procurement as they were explaining its lackluster reception. There was no problem with technical readiness, but there did seem to be a lack of enthusiasm among respondents to adopt E-procurement. While most respondents were aware of the possible performance benefits that may be achieved via E-procurement, such gains did not seem to be of sufficient importance for most to actively pursue its implementation.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author(s) declare(s) that they have no conflicts of interest

References

- [1]. T. H. Kim and Assistant Professor, e-Business at Ajou School of Business, Ajou University, Korea, "Knowledge management with IS/IT practice in organizations : A multilevel perspective," *Asia Pac. j. inf. syst.*, vol. 32, no. 1, pp. 151–167, 2022.
- [2]. D. Bou-Ghanem. "Public Procurement Law regulating e-procurement, a reform tool for Lebanon," *Technium Social Sciences Journal*, vol. 28, pp. 778–788, 2022.
- [3]. A. L. Cardoso and C. Biazzin, "What is the value of e-procurement for suppliers The drivers, barriers and opportunities for engaging MRO suppliers," *Int. j. procure. manag.*, vol. 13, no. 2, p. 278, 2020.
- [4]. I. Ferreira and L. A. Amaral, "Public e-procurement: Advantages, limitations and technological 'pitfalls,'" in *Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance*, 2016.
- [5]. D. N. Shatta, J. N. Layaa, and F. Shayo, "Legal framework influence towards E-Procurement Adoption Model in developing countries: Buyers' - suppliers' perception in Tanzania," *International Journal of Applied Research in Management and Economics*, vol. 3, no. 2, pp. 1–12, 2020.
- [6]. Z. Jufri and Budiman, "Analysis of acceptance and use of E-procurement applications using unified theory of acceptance and use of technology (UTAUT) in the procurement of goods and services at PT. JMS," *International Journal of Scientific Research in Science and Technology*, pp. 308–315, 2022.
- [7]. K. Rajaiah and P. R. Sivasankar, "Role of micro, small and medium enterprises in the economic development of India," *SEDME (Small Enterprises Development, Management & Extension Journal)*, vol. 39, no. 3, pp. 75–84, 2012.
- [8]. J.-M. Nurmilaakso, P. Kotinurmi, and H. Laesvuori, "XML-based e-business frameworks and standardization," *Comput. Stand. Interfaces*, vol. 28, no. 5, pp. 585–599, 2006.
- [9]. M. N. Addy, E. T. Addo, T. E. Kwofie, and J. E. Yartey, "Predicting the adoption of e-procurement in construction project delivery in Sub-Saharan Africa: an application of UTAUT2," *Constr. Innov.*, 2022.
- [10]. Y. Chen, S. Bretschneider, J. M. Stritch, N. Darnall, and L. Hsueh, "E-procurement system adoption in local governments: the role of procurement complexity and organizational structure," *Publ. Manag. Rev.*, vol. 24, no. 6, pp. 903–925, 2022.
- [11]. L. Cioni, "Italy · consequences of software malfunctioning in E-procurement - the highest Italian administrative court applies the proportionality principle," *Eur. procure. public priv. partnersh. law rev.*, vol. 15, no. 4, pp. 310–313, 2020.
- [12]. B. Wu and D. Drignei, "Emulated order identification for models of big time series data," *Stat. Anal. Data Min.*, vol. 14, no. 2, pp. 201–212, 2021.
- [13]. N. Drawel, J. Bentahar, A. Laarej, and G. Rjoub, "Formal verification of group and propagated trust in multi-agent systems," *Auton. Agent. Multi. Agent. Syst.*, vol. 36, no. 1, 2022.
- [14]. T. Vukasović and A. Sluga, "Creating a marketing mix model for the marketing of medical devices through public procurement," *Health Mark. Q.*, pp. 1–21, 2022.
- [15]. Q. Dai and R. J. Kauffman, "Business models for Internet-based e-procurement systems and B2B electronic markets: an exploratory assessment," in *Proceedings of the 34th Annual Hawaii International Conference on System Sciences*, 2005.
- [16]. S. B. Martín and F. J. G. Peñalvo, "Electronic government systems for e-procurement procedure in the EU," in *E-Procurement Management for Successful Electronic Government Systems*, IGI Global, 2013, pp. 29–51.
- [17]. M. Naeem, "Uncovering and addressing the challenges in the adoption of E-procurement system: Adoption process stages in SMEs," *Int. j. inf. syst. supply chain manag.*, vol. 14, no. 1, pp. 1–22, 2021.
- [18]. J. Shen, N. Zhang, and X. Li, "Cluster supply chain collaborative procurement model optimization and simulation implementation based on agent," in *Lecture Notes in Electrical Engineering*, Berlin, Heidelberg: Springer Berlin Heidelberg, 2014, pp. 255–264.
- [19]. A. Y. Doroshenko, Institute of Software Systems NAS of Ukraine, B. V. Bodak, and NTUU "KPI," "Designing RESTful API for the e-procurement system in private sector," *Probl. Program.*, no. 1, pp. 003–015, 2021.
- [20]. T. M. Cherian, S. Munuswamy, and M. Jasim, "E-Procurement Practices to improve the efficiency of Vendor Transactions in Indian Cement companies," *Int. j. procure. manag.*, vol. 1, no. 1, p. 1, 2020.

- [21]. A. Marei, "The effect of e-procurement on financial performance: Moderating the role of competitive pressure," *Uncertain Supply Chain Manag.*, vol. 10, no. 3, pp. 855–866, 2022.
- [22]. A. I. Aljumah, H. Shahroor, M. T. Nuseir, and G. A. E. Refae, "The effects of employee commitment and environment uncertainty on product quality: The mediating role of supply chain integration," *Uncertain Supply Chain Manag.*, vol. 10, no. 4, pp. 1379–1386, 2022.
- [23]. C. Sánchez-Rodríguez, A. R. Martínez-Lorente, and D. Hemsworth, "E-procurement in small and medium sized enterprises; facilitators, obstacles and effect on performance," *Benchmarking*, vol. 27, no. 2, pp. 839–866, 2020.
- [24]. P. D. Koggalage, "Barriers and strategies to implement e-procurement in the state pharmaceuticals corporation (SPC) of Sri Lanka," *Sri Lankan J. Med. Adm.*, vol. 22, no. 1, p. 63, 2021.
- [25]. S. H. Fitriyah, D. S. Wahyuni, A. Julia, and N. N. Naim, "Analisis Evaluasi Technology Acceptance Model terhadap Faktor-Faktor yang Mempengaruhi Penerimaan E-Procurement di Pemerintahan Provinsi Jawa Barat," *ajeks*, vol. 5, no. 1, pp. 164–186, 2022.
- [26]. J. Yadav, A. K. Saini, and A. K. Yadav, "Design of government-citizen participation model for sustainable eGovernment ecosystem- Indian context," *Electron. Gov. Int. J.*, vol. 1, no. 1, p. 1, 2022.
- [27]. S. Z. Ibrahim, "Benefits e-Procurement System," *ADVANCES IN BUSINESS RESEARCH INTERNATIONAL JOURNAL*, vol. 7, no. 1, p. 142, 2021.
- [28]. S. A. Yusufu, U. A. Philip, C. M. Everest, Librarian, Sunrise International School, Abuja, Nigeria, Associate Professor, Library and Information Technology, School of Information and Communication Technology, Federal University of Technology, Minna, Nigeria, and Associate Professor, Library and Information Technology, School of Information and Communication Technology, Federal University of Technology, Minna, Nigeria, "Use and effects of radio frequency identification (rfid) technology on theft detection for library resources management in two private universities in Abuja, Nigeria," *i-manag. J. Wirel. Commun. Netw.*, vol. 7, no. 2, p. 19, 2018.